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National Aeronautics
and Space Administration

February 16, 1995

NRA 95-OSS-05

Research Announcement

Research in Planetary Astronomy and Planetary Atmospheres

Appendices A–D

Proposals Due: May 16, 1995

COMPLETED

OMB Approval No. 2700-0042

Research in Planetary Astronomy and Planetary Atmospheres

NASA Research Announcement
Soliciting
Proposals for Basic Research
For the Period Ending
May 16, 1995

NRA 95-OSS-05
Issued: February 16, 1995

Office of Space Science
National Aeronautics and Space Administration
Washington, DC 20546-0001

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The Planetary Astronomy and Planetary Atmospheres Programs

This NASA Research Announcement solicits basic research proposals for the Planetary Astronomy and Planetary Atmospheres Programs.

I. Scope of the Planetary Astronomy Program

The Planetary Astronomy activity supports ground-based telescopic observations that contribute to the understanding of the general properties and evolution of the planets and their satellites, and of asteroids and comets. It includes observations made over a wide range of wavelengths from ultraviolet to radio and their analysis. The data obtained must be useful for basic research in support of planetary program objectives that cannot be obtained from current spacecraft missions, or for direct support of specific flight missions. Proposals are sought for either new projects or the continuation of existing projects that fall within the scope of the Planetary Astronomy Program. Presently about $10 million is budgeted for this program, and approximately 100 investigators are expected to be supported with these funds.

The effects of the Shoemaker-Levy 9 impacts on the Jupiter atmosphere are covered in NRA95-OSS-05, issued on Jan. 24, 1995. They will not be considered in this NRA.

II. Scope of the Planetary Atmospheres Program

The Planetary Atmospheres activity supports scientific investigations that contribute to the understanding of the general properties, origins, and evolutions of the neutral and ionized atmospheres of planets and their satellites and of comets. Its broad objectives include the determination of compositions and chemical behaviors of planetary atmospheres; sources of and mechanisms for deposition of energy; characterization and understanding of dynamical processes; and relationships between currently observed properties and/or states of matter and the chemical abundances, physical conditions, and processes that prevailed at the time the planets formed.

The scope of the Planetary Atmospheres activity includes laboratory investigations that supply basic physical measurements needed to interpret planetary data. These include measurements and calculations of spectroscopic properties, excitation/dissociation/ionization cross-sections, optical properties, and thermodynamic properties of materials found in planetary atmospheres.

Not included within the scope of the Planetary Atmospheres activity are investigations of the terrestrial atmosphere or of astrophysical objects. However, terrestrial and/or astrophysical subjects may be included as *subordinate* elements in comparative studies

aimed *primarily* at elucidating the nature and properties of the atmospheres of planets *other* than Earth.

Proposals are sought for either new projects or the continuation of existing projects that fall within the scope of the Planetary Atmospheres activity. Presently, approximately $7.5 million is budgeted and approximately 120 investigations are expected to be supported with these funds.

III. Program Management Information

Awards will normally be made for a 1-year period. However, periods of performance of up to 3 years may be proposed, if appropriate to the nature of the contemplated research.

IV. Supplementary Proposal Preparation Information

A. The "Conformance to Guidance" and "Proposal Contents" sections of Appendix B are modified as follows:

The first four pages of each proposal constitute summary sheets and, for ease of evaluation, should approximate the sample formats following Appendix C. Note that complete, detailed budgets and cost breakdowns, as necessary, must still appear in the main body of the proposal. At least one copy of the proposal must bear the signature of an authorized official or representative of the proposing organization, or any other person authorized to commit or obligate the organization contractually. The remainder of the proposal immediately following the summary pages (with the exception of the abstract) should be prepared using the named Appendix B categories (as applicable) in the order listed. Also included in Appendix C are form ED 80-0004, "Certification Regarding Drug-Free Workplace Requirements," and form ED GCS-008 (REV. 12/88), "Certification Regarding Debarment, Suspension and Other Responsibility Matters; Primary Covered Transactions." Proposals for grants or contracts in excess of $100,000 must also include the "Certification Regarding Lobbying." One set of these completed forms should be included with the original-signature version of all proposals. One set of pertinent reprints should be included with each copy of the proposal.

B. The following paragraphs are added to the "Project Description" section of Appendix B:

This section describes and justifies the proposed research. It should be a clear and concise statement of the research proposed, identifying and relating the key elements. The scientific objectives, the significance of the investigation, and their relevance to planetary science must be clear. Give attention to the nature and amount of experimental data to be collected, as appropriate; describe the methods or approaches to be used; discuss the advantages of the proposed approach over alternatives. If appropriate, the proposal should be divided into separate tasks that can be conducted independently; these tasks should be enumerated and described. If the investigations cannot be completed within 12 months of the award, the proposal should contain a brief description of work plans and budget requirements for each year of the effort. The proposal should contain sufficient detail to enable a reviewer to make informed judgements about (1) the relevance of the proposal to the Planetary Astronomy or Planetary Atmospheres program, (2) the probability that the investigators will be able to accomplish their stated objectives with the resources requested and (3) the overall merit of the proposed research.

C. Renewal Proposals: Three copies of brief "progress report" proposals should be submitted for second- or third-year renewal of grants awarded with multiyear "continuing agreement" status, if the investigators have been informed that such renewal proposals are acceptable.

Progress report renewal proposals, including a report of progress made during the past year and a brief statement of planned work for the coming year, should be limited to three (3) pages. A set of pertinent preprints/reprints should accompany each proposal. A copy of the renewal year budget consistent with the multi-year budget approved in the first year should be attached.

D. The "Length" section is modified as follows:

Each proposal for new work must be limited to 10 single-spaced, typewritten pages not including title pages, abstract, budget summary, figures, tables, and any request for new equipment.

E. The following section is added to Appendix B:

GUIDELINES FOR FOREIGN PARTICIPATION

NASA accepts proposals from all countries. Proposals from non-U.S. entities should not include a cost plan.

Non-U.S. proposals and U.S. proposals that include non-U.S. participation must be endorsed by the pertinent Government agency or funding/sponsoring institution in the country from which the non-U.S. participation is proposed. This endorsement should indicate that:

(1) The proposal merits careful consideration by NASA.

(2) If the proposal is selected, sufficient funds will be made available to undertake the activity, as proposed.

Proposals, accompanied by the requested number of copies and Letters of Endorsement, must be forwarded to NASA in sufficient time to arrive before the deadline established for this NRA. These documents should be sent to:

NRA Planetary Astronomy and Planetary
Atmospheres Programs
Code SLC
NASA Headquarters
Washington, DC 20546
USA

One copy of the document should be sent to:

Shiron D. Gaines
Re: NRA 95-OSS-05
International Relations Division
Code IRD
NASA Headquarters
Washington, DC 20546-0001
USA

All proposals must be typewritten in English. All non-U.S. proposals will be subjected to the same evaluation and selection process as those that originate in the U.S. Non-U.S. proposals and U.S. proposals that include non-U.S. participation must follow all other guidelines and requirements described in this NRA.

All proposals must be received before the established closing date; those received after the closing date will be treated in accordance with NASA's provisions for late proposals. Sponsoring non-U.S. agencies may, in exceptional situations, forward a proposal without endorsement to the above address, if review and endorsement are not possible before the announced closing date. In such cases, however, NASA's International Relations Division should be advised when a decision on endorsement can be expected.

Successful and unsuccessful proposers will be contacted directly by the NASA Program Office coordinating the NRA. Copies of these notification letters will be sent to the sponsoring Government agency.

Should a non-U.S. proposal or a U.S. proposal with non-U.S. participation be selected, the NASA International Relations Division will arrange with the non-U.S. sponsoring agency for the proposed participation on a no-exchange-of-funds basis, in which NASA and the non-U.S. sponsoring agency will each bear the cost of discharging its respective responsibilities. Depending on the nature and extent of the proposed cooperation, these arrangements may entail:

(1) A letter of notification by NASA; and

(2) An exchange of letters between NASA and the sponsoring Government agency.

F. The "Evaluation Factors" section of Appendix B, Section 13, is replaced by the following:

Factors considered in the technical evaluation of proposals are:

a. VALUE AS A RESEARCH PROJECT, including the following subfactors:

(1) Overall scientific and technical merit.

(2) Relevance to NASA mission or objectives. If a proposal has no relevance, it is a candidate for rejection regardless of its intrinsic merit or cost.

(3) Uniqueness of the investigation as measured either by the extent to which it addresses areas of importance not addressed by other investigations or by the extent to which new, innovative methods and approaches are proposed and documented.

b. UNDERSTANDING OF THE PROBLEM, including consideration of whether the proposer has demonstrated, in the proposal, a firm grasp of the approach and analytical techniques required to perform the proposed research.

c. SOUNDNESS OF APPROACH, including consideration of whether the proposed approach to the investigation is appropriate and likely to yield the desired results.

d. ABILITY OF INVESTIGATOR(S), including qualifications, capabilities and experience of the proposed Principal Investigator.

e. COST, including consideration of

(1) Realism of cost

(2) The appropriateness of all proposed cost elements to the proposed research project

(3) The relationship of the proposed cost to available funds.

f. ADEQUACY OF FACILITIES, including

(1) The availability of facilities necessary for the conduct of the proposed investigation.

(2) Capability and interest of the proposer's institution as measured by its willingness to provide support necessary to ensure that the investigation can be completed satisfactorily.

These factors are weighted approximately equally in the evaluation.

G. The "Evaluation Techniques" section of Appendix B, Section 14, is replaced by the following:

Proposals received in response to this NRA will be evaluated in accordance with provisions of NASA Handbook NHB 8030.6B (Guidelines for Acquisition of Investigations). All proposals will be subjected to a screening review by the Discipline Scientist to determine their responsiveness to the NRA. Proposals that obviously are not responsive to the intent of the NRA will be handled as correspondence and returned to the proposer. Proposals that are responsive will be subjected to review by the proposer's scientific or technological peers (with due regard to conflict of interest and protection of the proposal information). The primary purpose of the peer evaluation is to determine the scientific and technical merit of each proposal. Reviewers or panels of reviewers may also comment on such aspects of the proposals as uniqueness, capabilities of the proposer, institutional commitment to support, relevance to the program, and cost or cost realism. Following peer review, the Discipline Scientist will consider the peer evaluations together with other information such as relevance, competence of the proposer, program balance and cost of the proposed work in the context of the available budget, to construct a program plan that is scientifically and programmatically sound and affordable. This plan constitutes a selection recommendation. The selection recommendation is next reviewed by the Chief, Planetary Science Branch. The final selection is made by the Director, Solar System Exploration Division.

V. Access and Use of Supercomputer and Visualization Facilities at Ames Research Center

A proposer may request the use of NASA supercomputer capabilities available at Ames Research Center. These facilities include state of the art high-speed vector and parallel processors, workstation clusters, advanced graphics and visualization software, on-line mass storage, personal consultation, and a 24-hour hot line or help desk.

The proposal should identify the computational facilities needed for the investigation and provide an estimate of the number of Cray C90 single processor hours required. (A C90 processor hour is equivalent to 2.5 Cray YMP hours.) The estimate of computer time is to be included in the budget summary sheet. This will be costed at a rate of $150 per C90 single processor hour. Even though the initial request is expressed in terms of C90 hours, Ames is committed to helping OSS users determine and implement the most appropriate and cost-effective platform for their computational needs. Dr. Bruce F. Smith (415-604-5515) is the initial point of contact at Ames for Code S users.

A. Supercomputer and Visualization Facilities at Ames Research Center

The computational facilities located at Ames are part of an ongoing commitment to develop and provide advanced computational systems for the support of research and applications in aeronautics and space research. These facilities include the National Aerodynamic Simulation (NAS) Facility which has served remote users in the academic, industrial, and defense sectors since 1987. As the program evolves, it is envisioned that an appropriate mix of vector supercomputer resources and highly parallel machine resources will be available to the scientific community. Ames is committed to assisting OSS users to determine and implement the most appropriate and cost effective platform for their computational needs. The computational systems at Ames that would be made available in this program include the following:

B. Cray C90's: 8 processor machine, 128 MW central memory plus 512 MW SSD (solid state storage device), 16 processor machine, 1024 MW central memory plus 1024 MW SSD. The larger machine is the Numerical Aerodynamic Simulation (NAS) C90.

The throughput for a C90 single processor is approximately 2.5 times that of a Cray YMP single processor and 4–5 times the throughput of a Cray 2 single processor. The Cray C90 has a sustained speed of 3GFLOPS (billion floating point operations per second) for a job mix of computational physics codes.

C. Mass storage: 96 gigabytes on-line disk storage. Three Storage Technology cartridge tape robots (approximately 7 terabytes of storage).

D. State of the art graphics and visualization are often an integral part of research in computational physics and chemistry. Several graphics programs and libraries for visualizing the results of computational aerodynamics and physics have been developed at ARC. These are readily available and in many cases are easily ported to an investigator's home institution. The graphics programs include: PLOT3D, RIP (Remote Interactive Particle-tracing), GAS (Graphics Animation System), FAST (Flow Analysis Software Toolkit), SURF (Surface Modeling Program), ARCGraph GRAFIX Library, and others. Successful proposals can take advantage of these developments in visualization.

E. Networking requirements will be addressed by the networking capabilities at Ames, particularly the NASA Science Internet (NSI). The NSI Project is chartered to provide high bandwidth internet connectivity for investigators funded by the Office of Space Science and other organizations at Headquarters. The process is well established and makes it possible for investigators to have high bandwidth access to the internet and to Ames. It is quite likely that most, if not all, have such connectivity now. The resources required will depend on the participants.

VI. Equipment Upgrade

Funds are available under the Planetary Instrument Upgrade Program (PIUP) to provide for upgrading of analytical instruments required by investigations sponsored by the Planetary Astronomy and Planetary Atmospheres programs. New, major analytical instrumentation that is necessary for the conduct of proposed research in these discipline areas, or that would substantially improve its quality, should be identified and requested in a special section of each proposal, to be titled "Major Equipment Request." Details of specific guidelines, restrictions, and exclusions are provided in Appendix D of this NRA.

NRA APPENDIX B

GUIDELINES FOR RESPONDING TO

NASA RESEARCH ANNOUNCEMENTS (NRA)

FOR SOLICITED BASIC RESEARCH PROPOSALS

AUGUST 1988

OFFICE OF PROCUREMENT
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, DC 20546

INSTRUCTIONS FOR RESPONDING TO NASA RESEARCH ANNOUNCEMENTS FOR SOLICITED RESEARCH PROPOSALS

(AUGUST 1988)

1. FOREWORD

a. NASA depends upon industry, educational institutions and other nonprofit organizations for most of its research efforts. While a number of mechanisms have been developed over the years to inform the research community of those areas in which NASA has special research interests, these instructions apply only to "NASA Research Announcements," a form of "broad agency announcement" described in 6.102(d)(2) and 35.016 of the Federal Acquisition Regulation (FAR). The "NASA Research Announcement (NRA)" permits competitive selection of research projects in accordance with statute while at the same time preserving the traditional concepts and understandings associated with NASA sponsorship of research.

b. These instructions are Appendix I to 18-70.203 of the NASA Federal Acquisition Regulation Supplement.

2. POLICY

a. NASA fosters and encourages the submission of research proposals relevant to agency mission requirements by solicitations, "NASA Research Announcements," which describe research areas of interest to NASA. Proposals received in response to an NRA will be used only for evaluation purposes.

b. NASA does not allow a proposal, the contents of which are not available without restriction from another source, or any unique ideas submitted in response to an NRA to be used as the basis of a solicitation or in negotiation with other organizations, nor is a pre-award synopsis published for individual proposals.

c. A solicited proposal that results in a NASA award becomes part of the record of that transaction and may be available to the public on specific request; however, information or material that NASA and the awardee mutually agree to be of a privileged nature will be held in confidence to the extent permitted by law, including the Freedom of Information Act.

3. PURPOSE

These instructions are intended to supplement documents identified as "NASA Research Announcements." The NRAs contain programmatic information and certain "NRA-specific" requirements which apply only to proposals prepared in response to that particular announcement. These instructions contain the general proposal preparation information which applies to responses to all NRAs.

4. RELATIONSHIP TO AWARD

a. A contract, grant, cooperative agreement, or other agreement may be used to accomplish an effort funded on the basis of a proposal submitted in response to an NRA. NASA does not have separate "grant proposal" and "contract proposal" categories, so all proposals may be prepared in a similar fashion. NASA will determine the appropriate instrument.

b. Grants are generally used to fund basic research in educational and nonprofit institutions, while research in other private sector organiza-

tions is accomplished under contract. Additional information peculiar to the contractual process (certifications, cost and pricing data, facilities information, etc.) will be requested, as necessary, as the procurement progresses. Contracts resulting from NRAs are subject to the Federal Acquisition Regulation and the NASA FAR Supplement (NHB 5100.4). Any resultant grants or cooperative agreements will be awarded and administered in accordance with the NASA Grant and Cooperative Agreement Handbook (NHB 5800.1).

5. CONFORMANCE TO GUIDANCE

a. NASA does not have any mandatory forms or formats for preparation of responses to NRAs; however, it is requested that proposals conform to the procedural and submission guidelines covered in these instructions. In particular, NASA may accept proposals without discussion; hence, proposals should initially be as complete as possible, and be submitted on the proposers' most favorable terms.

b. In order to be considered responsive to the solicitation, a submission must, at a minimum, present a specific project within the areas delineated by the NRA; contain sufficient technical and cost information to permit a meaningful evaluation; be signed by an official authorized to legally bind the submitting organization; not merely offer to perform standard services or to just provide computer facilities or services; and not significantly duplicate a more specific current or pending NASA solicitation. NASA reserves the right to reject any or all proposals received in response to an NRA when such action is considered in the best interest of the Government.

6. NRA-SPECIFIC ITEMS

a. Several proposal submission items will appear in the NRA itself. These include: the unique NRA identifier; when to submit proposals; where to send proposals; number of copies required; and sources for more information.

b. Items included in these instructions may be supplemented by the NRA, as circumstances warrant. Examples are: technical points for special emphasis; additional evaluation factors; and proposal length.

7. PROPOSAL CONTENTS

a. The following general information is needed in all proposals in order to permit consideration in an objective manner. NRAs will generally specify topics for which additional information or greater detail is desirable. Each proposal copy shall contain all submitted material, including a copy of the transmittal letter if it contains substantive information.

b. Transmittal Letter or Prefatory Material

1) The legal name and address of the organization and specific division or campus identification if part of a larger organization;

2) A brief, scientifically valid project title intelligible to a scientifically literate reader and suitable for use in the public press;

3) Type of organization: e.g., profit, nonprofit, educational, small business, minority, women-owned, etc.;

4) Name and telephone number of the principal investigator and business personnel who may be contacted during evaluation or negotiation;

5) Identification of any other organizations that are currently evaluating a proposal for the same efforts;

6) Identification of the specific NRA, by number and title, to which the proposal is responding;

7) Dollar amount requested of NASA, desired starting date, and duration of project;

8) Date of submission; and

9) Signature of a responsible official or authorized representative of the organization, or any other person authorized to legally bind the organization (unless the signature appears on the proposal itself).

c. Restriction on Use and Disclosure of Proposal Information

It is NASA policy to use information contained in proposals for evaluation purposes only. While this policy does not require that the proposal bear a restrictive notice, offerors or quoters should, in order to maximize protection of trade secrets or other information that is commercial or financial and confidential or privileged, place the following notice on the title page of the proposal and specify the information subject to the notice by inserting appropriate identification, such as page numbers, in the notice. In any event, information (data) contained in proposals will be protected to the extent permitted by law, but NASA assumes no liability for use and disclosure of information not made subject to the notice.

NOTICE

Restriction on Use and Disclosure of Proposal Information

The information (data) contained in [insert page numbers or other identification] of this proposal constitutes a trade secret and/or information that is commercial or financial and confidential or privileged. It is furnished to the Government in confidence with the understanding that it will not, without permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, that in the event a contract (or other agreement) is awarded on the basis of this proposal the Government shall have the right to use and disclose this information (data) to the extent provided in the contract (or other agreement). This restriction does not limit the Government's right to use or disclose this information (data) if obtained from another source without restriction.

d. Abstract

Include a concise (200-300 word if not otherwise specified in the NRA) abstract describing the objective of the proposed effort and the method of approach.

e. Project Description

1) The main body of the proposal shall be a detailed statement of the work to be undertaken and should include objectives and expected significance; relation to the present state of knowledge in the field; and relation to previous work done on the project and to related work in progress elsewhere. The statement should outline the general plan of work, including the broad design of experiments to be undertaken and an adequate description of experimental methods and procedures. The project description should be prepared in a manner that addresses the evaluation factors in these instructions and any additional specific factors in the NRA. Any substantial collaboration with individuals not referred to in the budget or use of consultants should be described. Note, however, that subcontracting significant portions of a research project is discouraged.

2) When it is expected that the effort will require more than one year for completion, the proposal should cover the complete project to the extent that it can be reasonably anticipated. Principal emphasis should, of course, be on the first year of work, and the description should

distinguish clearly between the first year's work and work planned fur subsequent years.

f. Management Approach

For large or complex efforts involving interactions among numerous individuals or other organizations, plans for distribution of responsibilities and any necessary arrangements for ensuring a coordinated effort should be described. Aspects of any required intensive working relations with NASA field centers that are not logical inclusions elsewhere in the proposal should be described in this section.

g. Personnel

The principal investigator is responsible for direct supervision of the work and participates in the conduct of the research regardless of whether or not compensation is received under the award. A short biographical sketch of the principal investigator, a list of principal publications and any exceptional qualifications should be included. Omit social security number and other personal items which do not merit consideration in evaluation of the proposal. Give similar biographical information on other senior professional personnel who will be directly associated with the project. Give the names and titles of any other scientists and technical personnel associated substantially with the project in an advisory capacity. Universities should list the approximate number of students or other assistants, together with information as to their level of academic attainment. Any special industry-university cooperative arrangements should be described.

h. Facilities and Equipment

1) Describe available facilities and major items of equipment especially adapted or suited to the proposed project, and any additional major equipment that will be required. Identify any Government-owned facilities, industrial plant equipment, or special tooling that are proposed for use on the project.

2) Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a feasible alternative to purchase. Where such arrangements cannot be made, the proposal should so state. The need for items that typically can be used for both research and non-research purposes should be explained.

i. Proposed Costs

1) Proposals should contain cost and technical parts in one volume; do not use separate "confidential" salary pages. As applicable, include separate cost estimates for salaries and wages; fringe benefits; equipment; expendable materials and supplies; services; domestic and foreign travel; ADP expenses; publication or page charges; consultants; subcontracts; other miscellaneous identifiable direct costs; and indirect costs. List salaries and wages in appropriate organizational categories (e.g., principal investigator, other scientific and engineering professionals, graduate students, research assistants, and technicians and other non-professional personnel). Estimate all manpower data in terms of man-months or fractions of full-time.

2) Explanatory notes should accompany the cost proposal to provide identification and estimated cost of major capital equipment items to be acquired; purpose and estimated number and lengths of trips planned; basis for indirect cost computation (including date of most recent negotiation and cognizant agency); and clarification of other items in the cost proposal that are not self-evident. List estimated expenses as yearly requirements by major work phases. (Standard Form 1411 may be used.)

3) Allowable costs are governed by FAR Part 31 and the NASA FAR Supplement Part 18-31 (and OMB Circulars A-21 for educational

institutions and A-122 for nonprofit organizations).

j. Security

Proposals should not contain security classified material. However, if the proposed research requires access to or may generate security classified information, the submitter will be required to comply with applicable Government security regulations.

k. Current Support

For other current projects being conducted by the principal investigator, provide title of project, sponsoring agency, and ending date.

l. Special Matters

1) Include any required statements of environmental impact of the research, human subject or animal care provisions, conflict of interest, or on such other topics as may be required by the nature of the effort and current statutes, executive orders, or other current Government-wide guidelines.

2) Proposers should include a brief description of the organization, its facilities, and previous work experience in the field of the proposal. Identify the cognizant Government audit agency, inspection agency, and administrative contracting officer, when applicable.

8. RENEWAL PROPOSALS

a. Renewal proposals for existing awards will be considered in the same manner as proposals for new endeavors. It is not necessary that a renewal proposal repeat all of the information that was in the original proposal upon which the current support was based. The renewal proposal should refer to its predecessor, update the parts that are no longer current, and indicate what elements of the research are expected to be covered during the period for which extended support is desired. A description of any significant findings since the most recent progress report should be included. The renewal proposal should treat, in reasonable detail, the plans for the next period, contain a cost estimate, and otherwise adhere to these instructions.

b. NASA reserves the right to renew an effort either through amendment of an existing contract or by a new award.

9. LENGTH

Unless otherwise specified in the NRA, every effort should be made to keep proposals as brief as possible, concentrating on substantive material essential for a complete understanding of the project. Experience shows that few proposals need exceed 15-20 pages. Any necessary detailed information, such as reprints, should be included as attachments rather than in the main body of the proposal. A complete set of attachments is necessary for each copy of the proposal. As proposals are not returned, avoid use of "one-of-a-kind" attachments; their availability may be mentioned in the proposal.

10. JOINT PROPOSALS

a. Some projects involve joint efforts among individuals in different organizations or mutual efforts of more than one organization. Where multiple organizations are involved, the proposal may be submitted by only one of them. In this event, it should clearly describe the role to be played by the other organizations and indicate the legal and managerial arrangements contemplated. In other instances, simultaneous submission of related proposals from each organization might be appropriate, in which case parallel awards would be made.

b. Where a project of a cooperative nature with NASA is contemplated, the proposal should

describe the contributions expected from any participating NASA investigator and agency facilities or equipment which may be required. However, the proposal must be confined only to that which the proposing organization can commit itself. "Joint" proposals which purport to specify the internal arrangements NASA will actually make are not acceptable as a means of establishing an agency commitment.

11. LATE PROPOSALS

A proposal or modification thereto received after the date or dates specified in an NRA may still be considered if the selecting official deems it to offer NASA a significant technical advantage or cost reduction.

12. WITHDRAWAL

Proposals may be withdrawn by the proposer at any time. Offerors are requested to notify NASA if the proposal is funded by another organization or of other changed circumstances which dictate termination of evaluation.

13. EVALUATION FACTORS

a. Unless otherwise specified in the NRA, the principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost.

b. Evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission.

c. Evaluation of its intrinsic merit includes the consideration of the following factors, none of which is more important than any other:

1) Overall scientific or technical merit of the proposal or unique and innovative methods, approaches, or concepts demonstrated by the proposal.

2) The offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.

3) The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel who are critical in achieving the proposal objectives.

4) Overall standing among similar proposals available for evaluation and/or evaluation against the known state-of-the-art.

d. Evaluation of the cost of a proposed effort includes the consideration of the realism and reasonableness of the proposed cost and the relationship of the proposed cost to available funds.

14. EVALUATION TECHNIQUES

Selection decisions will be made following peer and/or scientific review of the proposals. Several evaluation techniques are regularly used within NASA. In all cases, however, proposals are subject to scientific review by discipline specialists in the area of the proposal. Some proposals are reviewed entirely in-house where NASA has particular competence; others are evaluated by a combination of in-house people and selected external reviewers, while yet others are subject to the full external peer review technique (with due regard for conflict-of-interest and protection of proposal information), such as by mail or through assembled panels. Regardless of the technique, the final decisions are always made by a designated NASA selecting official. A proposal which is scientifically and programmatically meritorious, but which is not selected for award during its initial review under

the NRA may be included in subsequent reviews unless the proposer requests otherwise.

15. SELECTION FOR AWARD

a. When a proposal is not selected for award, and the proposer has indicated that the proposal is not to be held over for subsequent reviews, the proposer will be notified that the proposal was not selected for award. NASA will notify the proposer and explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.

b. When a proposal is selected for award, negotiation and award will be handled by the procurement office in the funding installation. The proposal is used as the basis for negotiation with the submitter. Formal RFPs are not used to obtain additional information on a proposal selected under the NRA process. However, the contracting officer may request certain business data and may forward a model contract and other information which will be of use during the contract negotiation.

16. CANCELLATION OF NRA

NASA reserves the right to make no awards under this NRA and, in the absence of program funding or for any other reason, to cancel this NRA by having a notice published in the Commerce Business Daily. NASA assumes no liability for canceling the NRA or for anyone's failure to receive actual notice of cancellation. Cancellation may be followed by issuance and synopsis of a revised NRA, since amendment of an NRA is normally not permitted.

PROPOSAL FORMAT

PLANETARY ASTRONOMY AND ATMOSPHERES PROGRAMS

Log No. _____
Date Received: _____

Do not write in the shaded area.

NRA #: _____ **Grant/Contract/RTOP #:** _____

Date Submitted: _____

Please check all boxes appropriate to this NRA:

☐ **Planetary Astronomy** ☐ **Planetary Atmospheres** ☐ **Major Equipment**

☐ **Full Proposal: New Research** ☐ **Full Proposal: Renew Ongoing Research** ☐ **Progress Proposal**

For Planetary Astronomy Research Areas (please check only the one box that indicates the primary intent of the proposal)

☐ Inner Planets ☐ Outer Planets ☐ Small Bodies (Asteroids, Comets, etc.) ☐ Facility Support/ Instrumentation

For Planetary Atmospheres Research Areas (please check only the one box that indicates the primary intent of the proposal)

☐ Structure/ Composition ☐ Dynamics ☐ Particles/ Aerosols ☐ Radiative Transfer ☐ Molecular Properties/Spectra

☐ Aeronomy/ Theory ☐ Aeronomy/Energy Deposition ☐ Aeronomy/ Chemistry ☐ Solar Wind Interaction

Type of Organization: _____
(Profit, non-profit, university, etc.)

Proposal Title: _____

Principal Investigator (Name): _____

Institution: _____

Address: _____

City/State/Zip Code: _____

Telephone: (____)_____ **Fax:** (____)_____

E-Mail Address: _____

_____ _____
Signature Date

Institutional Authorization Official: _____

_____ _____
Signature Date

Address: _____

City/State/Zip Code: _____

Telephone: (____)_____ **Fax:** (____)_____

Institution Contact or Business Representative:

Telephone: (____)_____ **Fax:** (____)_____

Please list all names and institutions below (use separate sheet if necessary)

Co-Investigators: **Institutions:**

Collaborators: **Institutions:**

Proposed Duration of Project: _____ months

Desired Start Date: _____ **End Date:** _____

Budget Request:

Year 1	Year 2	Year 3
$_____	$_____	$_____

Total Funding Requested: $_____

SAMPLE MODEL FORMAT PAGE 3

RTOP# _____

GRANT/CONTRACT NO. _____

PROPOSAL SUMMARY

TITLE: _____

PRINCIPAL INVESTIGATOR: _____

INSTITUTION: _____

THIS YEAR REQUESTED FUNDS: _____

THIS YEAR REQUESTED START DATE: _____

THIS YEAR REQUESTED END DATE: _____

ABSTRACT

Type single-spaced within the space provided below. List:

1) Goals, overall objectives and justification of the work;
2) Progress and accomplishments of the prior year, or "new proposal";
3) Anticipated accomplishments listing what will be done this year, as well as how and why
4) PI's relevant publications on separate page (list in this way: Smith, A. B.: Spectroscopy of Comet Halley. AP. J. 123, 25-37, 1987).

SAMPLE MODEL FORMAT PAGE 4

RTOP# _____
GRANT/CONTRACT NO. _____

FULL BUDGET SUMMARY

TITLE: _____

PRINCIPAL INVESTIGATOR: _____

FULL DURATION REQUESTED: _____YRS START DATE: _____ END DATE: _____

1.	SALARIES AND WAGES	$_____
2.	SUPPLIES AND MATERIALS	$_____
3.	EQUIPMENT PURCHASES	$_____
4.	COMPUTER TIME (paid with PI funds)	$_____
5.	SERVICES	$_____
6.	PUBLICATIONS AND COMMUNICATIONS	$_____
7.	TRAVEL*	$_____
8.	OTHER (INCLUDING BENEFITS AND OVERHEAD)	$_____
9.	SUBTOTAL FULL DURATION BUDGET	$_____
10.	INSTITUTIONAL CONTRIBUTIONS	$_____
11.	CARRYOVER FROM PREVIOUS AWARD	$_____
12.	TOTAL BUDGET REQUESTED FOR ALL YEARS NEW FUNDS REQUESTED FROM NASA (LINE 9, 10, 11)	$_____

****

SUMMARY OF STAFFING REQUEST (NEAREST $K, NEAREST 0.1 MANYEAR)

1.	SENIOR PERSONNEL (GIVE NAMES)	_____ my	$_____
2.	TECHNICAL SUPPORT (GIVE NUMBER)	_____ my	$_____
3.	OTHER	_____ my	$_____
4.	TOTALS	_____ my	$_____

* Provide names of travelers, dates, and destinations for each year of support requested.

SAMPLE MODEL FORMAT PAGE 5

RTOP# _____
GRANT/CONTRACT NO. _____

YEARLY BUDGET SUMMARY

FIRST YEAR BUDGET AND PERSONNEL SUMMARY BREAKDOWN

TITLE: _____

PRINCIPAL INVESTIGATOR & INSTITUTION: _____

SUMMARY OF FIRST YEAR PROPOSED COSTS: (nearest $K)

1.	SALARIES AND WAGES	$_____
2.	SUPPLIES AND MATERIALS	$_____
3.	EQUIPMENT PURCHASES	$_____
4.	COMPUTER TIME (paid with PI funds)	$_____
5.	SERVICES	$_____
6.	PUBLICATIONS AND COMMUNICATIONS	$_____
7.	TRAVEL*	$_____
8.	OTHER (INCLUDING BENEFITS AND OVERHEAD)..	$_____
9.	SUBTOTAL FULL DURATION BUDGET	$_____
10.	INSTITUTIONAL CONTRIBUTIONS	$_____
11.	CARRYOVER FROM PREVIOUS AWARD	$_____
12.	TOTAL BUDGET REQUESTED FOR ALL YEARS NEW FUNDS REQUESTED FROM NASA (LINE 9, 10, 11)	$_____

****

SUMMARY OF STAFFING REQUEST (NEAREST $K, NEAREST 0.1 MANYEAR)

1.	SENIOR PERSONNEL (GIVE NAMES)	_____ my	$_____
2.	TECHNICAL SUPPORT (GIVE NUMBER)	_____ my	$_____
3.	OTHER	_____ my	$_____
4.	TOTALS	_____ my	$_____

* Provide names of travelers, dates, and destinations for each year of support requested.

SAMPLE MODEL FORMAT PAGE 6

LIST CURRENT AND PENDING RESEARCH SUPPORT FROM ALL OTHER SOURCES

This list should include all current research support from all other sources. It must include the proposed project and all other research requiring a part or portion of time of the principal investigator and other senior personnel. The number of person-months must be stated regardless of the source of the support. Please provide this information in the following form:

I. Name of Principal Investigator

A. Current Support

1. Source of Support
2. Project Title and Short Abstract
3. Award Amount
4. Period Covered by Award
5. Person-Months
6. Location where research is/will be performed

B. Pending Proposals (including renewal applications)

1. Source of Support
2. Project Title and Short Abstract
3. Award Amount
4. Period Covered by Award
5. Person-Months
6. Location where research is/will be performed

II. Names of Co-Investigators

A. Current Support

1. Source of Support
2. Project Title and Short Abstract
3. Award Amount
4. Period Covered by Award
5. Person-Months
6. Location where research is/will be performed

B. Pending Proposals (including renewal applications)

1. Source of Support
2. Project Title and Short Abstract
3. Award Amount
4. Period Covered by Award
5. Person-Months
6. Location where research is/will be performed

III. Other agencies to which this proposal, or parts thereof, has been submitted.

NRA APPENDIX D

MAJOR EQUIPMENT REQUEST

UNDER THE

PLANETARY INSTRUMENT UPGRADE PROGRAM (PIUP)

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MAJOR EQUIPMENT REQUEST

I. Introduction

The Solar System Exploration Division has obtained funding to provide for the upgrading of analytical and telescopic instrumentation required by investigations sponsored by the Planetary Astronomy, Atmospheres, Geology and Geophysics, and Materials and Geochemistry programs. This funding totals approximately $2 million per year. New, major analytical or telescopic instrumentation that is necessary for the conduct of proposed research in these discipline areas, or that would substantially improve its quality, should be identified and requested in a special section of each proposal entitled Major Equipment Request.

In order to make the best possible use of the funds that have been made available, proposers who request these funds for equipment are encouraged to:

a. Seek cost-sharing where appropriate. However, proposers need to recognize that NASA interprets cost-sharing arrangements as joint ownership, and that NASA has the option to retain title to instruments acquired under such arrangements. Issues of ownership and title may be especially tricky under arrangements that involve other Federal agencies (e.g., the National Science Foundation). When joint ownership cannot be avoided, and the NASA contribution will exceed $1,000, agreement regarding NASA retention of its option to take title, and the conditions under which the option (if retained) will be exercised, shall be reached and documented prior to purchase.

b. Propose collective use, where that is reasonable; i.e., instruments that could be made available for use by other qualified members of the planetary science community. Such "facility-type" proposals would be especially attractive for very high cost instruments (e.g., ion microprobes, transmission electron microscopes), or where the instrument is being developed for use on an existing facility (e.g., the NASA Infrared Telescope Facility).

Moreover, because funds are limited, certain exclusions or restrictions have been placed on the kinds of instrumentation or equipment considered appropriate to request.

II. Exclusions and Restrictions

Instruments or support equipment costing less than approximately $10,000 are not considered major. Requests for such items should be included in the body of the research proposals to the discipline program. Instrumentation or equipment considered inappropriate includes computers or computer peripherals (unless these are integral parts of the instrumentation requested) and support equipment (unless that equipment is essential to the operation of a new equipment item), and equipment repair where the repair

does not involve significant enhancement of the instrument's basic capabilities. Nor should funds be sought to support maintenance and continued operations of any instrument requested. These funds must be requested in the main body of the proposal, not in the Major Equipment Request section. Finally, in no event will proposals be considered that seek to design, develop, test, or evaluate new instruments that are to be considered for sale.

III. Appropriate Requests

Kinds or classes of instruments that are considered appropriate are listed below. Please note that this list is not intended to be inclusive, but rather illustrative of the range of instrument types (and hence costs) that are appropriate. Requests for instruments not specifically identified in the list will receive equal consideration.

TYPES/CLASSES OF INSTRUMENTS THAT MIGHT BE REQUESTED

- Solid source, light element, and noble gas mass spectrometers
- Electron microprobe
- Scanning electron microscope
- Transmission electron microscope
- Camera-class ion microprobe
- Activation analysis equipment
- X-ray fluorescence analyzer
- Organic analysis instrumentation
- Static high pressure instrumentation
- Portable high-speed charge-coupled device for occultation measurements
- Telescopic instrumentation
    - High resolution infrared spectrometer
    - Large format optical charge-coupled device (2000x2000) with coronograph
    - Faint object infrared spectrometer
    - Near infrared array camera with coronograph

- Instrumentation for airborne telescope

- Instrumentation for planetary atmospheres laboratory studies

  - Coolable white cells
  - Tunable dye-laser high resolution spectrometer
  - Instrumentation for measurement of gas phase reaction rates, photochemical reaction rates and branching rates, and collisional dissociation/ionization/recombination cross-sections.

IV. Types of Instrument Use That Might be Proposed for Requested Instruments

Requests for an instrument should specify how the instrument is to be used, whether by the Principal Investigator and his research group only (investigator instrument), or by the PI group as well as by other investigators (facility instrument). These categories of use are defined below.

Investigator Instrument: An investigator instrument is an instrument acquired or developed by an investigator to support his or her research where he or she has full authority for its exclusive use and where there are no commitments to make the instrument available to other investigators.

Investigator Facility Instrument: An investigator facility instrument is an instrument acquired or developed by an investigator to support his or her research where an identified portion of its time is to be reserved for use by the PI but where an additional, specified portion of this time will be made available to other knowledgeable planetary program investigators and where all details of access, methods of use, charging, and data rights are determined by the PI in negotiation with potential users.

Regional Facility Instrument: A regional facility instrument is an instrument of considerable cost or which is limited to one location by virtue of its use on a specific telescope facility but which is acquired or developed by a PI to support his or her research. A significant, specified portion of a regional facility instrument's time will be reserved for use by the PI, but a significant, specified portion of its time must also be available to other planetary program investigators. Unlike an investigator facility instrument, however, all details of access, announcements of availability, assistance to be provided in its use and methods of use (whether hands on or by an operator), charging, and data rights must be documented and agreed to by NASA and the sponsoring institution before NASA support is provided.

V. Major Equipment Request Requirements

A request for major equipment should be so written that it can be reviewed as a stand alone proposal. This is especially important for proposers who are operating under multiyear approvals and who normally would submit only a renewal proposal. It is important also, however, because equipment requests will be reviewed not only by peers of the proposer during normal discipline program proposal reviews but also by a multidisciplinary group less knowledgeable of the science areas in which the instruments are to be used. All requests should contain a short abstract and sections on project description, management, and costs.

Project Description: The main body of the request should first identify the instrument to be acquired or developed and the type of use proposed (investigator instrument, etc.). It should continue with a strong justification including a description of why the instrument is necessary for the investigator's research or how it would enhance that research, citing specific examples wherever possible. It should also demonstrate why the enhanced capability is important to planetary science in general. If a facility instrument is proposed, the justification should emphasize, as well, how the enhanced capability would benefit the larger planetary science community. All justifications should address how the requested instrument relates to existing capabilities, both in the investigator's own laboratory and to others in the community.

Any substantial collaboration with individuals not referred to in the budget, or use of consultants, should be described. Also, if cost sharing or substantial institutional contributions are anticipated, this should be discussed. It should be noted that cost sharing (between NASA and other agencies such as the Department of Energy or the National Science Foundation) is encouraged to the extent that NASA's share of the cost will ensure adequate use by NASA investigators. This aspect of any proposed cost-sharing acquisition must be discussed. Also, if other agencies have been approached or have made tentative commitments, the proposal should document that and provide names and telephone numbers of appropriate officers in those agencies who can discuss their agencies' interests. When it is expected that the acquisition or development of an instrument or facility will require more than 1 year, the proposal should cover the complete project but with a clear distinction between the efforts involved in each requested year.

Management: A management section is required only if a facility instrument is requested. This section should include a description of how a requested facility instrument would be managed. If an investigator facility instrument is requested, this description should include a statement of the percentage of the instrument's time that would be available to other users and a general statement regarding aspects of user access, such as time of day when access would be granted, whether access would be hands on or by an operator or collaborator in the PI's group, cost of use and how costing would be handled, and how users would gain access (personal communication, proposal, etc.).

If a regional facility instrument is requested, all of the above factors must be discussed but in the style of a formal document that the PI and his or her institutional official would be willing to agree to and sign.

Costs: If the instrument in question is to be acquired from commercial sources, only those costs directly associated with the acquisition, installation, and checkout of the instrument should be requested. No costs for maintenance or operation beyond the checkout period should be included. These must be requested in research proposals submitted to the appropriate discipline programs. If the instrument is to be developed by the investigator, all costs associated with the development and final checkout should be requested. Multiyear requests would be expected in these cases. In all cases, however, provision of an adequately documented cost section will facilitate evaluation, and, if selected, a speedy award. It is especially important that each relevant cost category (Direct Labor, Fringe Benefits, Overhead, and Other Direct costs such as Computer Use, Equipment, Travel, etc.) be detailed, explained, and substantiated in the proposal. For example, Direct Labor costs should include a listing of each labor type, hours to be expended, and salary rates used to calculate the yearly costs. Travel requirements should be explained in terms of the number of trips (travelers) to each destination, their duration, and all associated costs broken down by airfare, per diem, and ground transportation. Equipment costs should be itemized with references as to the source of the estimates. Finally, the basis for costs based on rates (Fringe Benefits, Overhead, etc.) should be explained. A summary would also be useful wherein costs for each major cost category is given for each year of requested support, together with a total for each year, and a grand total for all years requested. Sufficient proposal cost detail and supporting information as requested in Appendix C will facilitate a speedy evaluation and award.

VI. Evaluation

Evaluation factors will be those employed in evaluation of proposals received in response to an NRA, given in Appendix B, with the following additions. In considering the relevance of the request to NASA's objectives, attention will be focused on the value that would be added by the addition of the instrument capability to ongoing and anticipated research of the proposer, in particular, and to planetary science investigations in general. In evaluating the intrinsic merit of the request, an additional factor that will be considered, in addition to those listed in Appendix B, is the value that the new or enhanced capability would add to science and/or education beyond that offered specifically to planetary science.

The process to be followed in the evaluation is to have the equipment request reviewed by each discipline peer review panel during the full proposal review and in the context of research proposed. Those requests determined to be most worthy of support by the peer panels will be referred to a special panel chaired by the Chief, Planetary Science Branch, Solar System Exploration Division and composed of the pertinent Discipline Scientists. This panel will consider

all referred requests from the point of view of scientific merit, program balance, and funding availability. The Director, Solar System Exploration Division, will then make the final selection.

VII. Selection

Requests that are selected for support will be funded through augmentations to the grants which provide support for the investigator's basic research programs. If requests involve multiple year periods of performance for development activities, for example, annual augmentations to the basic continuing grants will be provided upon receipt and review of renewal requests submitted with research proposals.

CERTIFICATION REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS
PRIMARY COVERED TRANSACTIONS

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participants' responsibilities. The regulations were published as Part VII of the May 28, 1988 Federal Register (pages 19160–19211). Copies of the regulations may be obtained by contacting the U.S. Department of Education, Grants and Contracts Service, 400 Maryland Avenue, S.W. (Room 3633 GSA Regional Office Building No. 3), Washington, D.C. 20202-4725, telephone (202) 732-2505.

A. The applicant certifies that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this application been convicted or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph A.(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default; and

B. Where the applicant is unable to certify to any of the statements in this certification, he or she shall attach an explanation to this application.

C. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lowered Tier Covered Transactions (Subgrants or Subcontracts)

(a) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principles is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department of agency.

(b) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name | NRA or AO Number and Title

Printed Name and Title of Authorized Representative

Signature | Date

Printed Principal Investigator Name | Proposal Title

CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85. Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grants, or government-wide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620).

I. GRANTEES OTHER THAN INDIVIDUALS

A. The grantee certifies that it will provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing a drug-free awareness program to inform employees about --

(1) The dangers of drug abuse in the workplace;

(2) The grantees policy of maintaining a drug-free workplace;

(3) Any available drug counseling, rehabilitation, and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will

(1) Abide by the terms of the statement; and

(2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;

(e) Notifying the agency within ten days after receiving notice under subparagraph (d) (2) from an employee or otherwise receiving actual notice of such conviction;

(f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d) (2), with respect to any employee who is so convicted --

(1) Taking appropriate personnel action against such an employee, up to and including termination; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or Local health, Law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e), and (f)

B. The grantee shall insert in the space provided below the site(s) for the performance or work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

_____

_____

_____

Check _____ if there are workplaces on file that are not identified here.

II. GRANTEES WHO ARE INDIVIDUALS

The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in conducting any activity with the grant.

Organization Name | NRA or AO Number and Title

Printed Name and Title of Authorized Representative

Signature | Date

Printed Principal Investigator Name | Proposal Title

CERTIFICATION REGARDING LOBBYING

As required by S 1352 Title 31 of the U.S. Code for persons entering into a grant or cooperative agreement over $100,000, the applicant certifies that:

(a) No Federal appropriated funds have been paid or will be paid by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, in connection with making of any Federal grant, the entering into of any cooperative, and the extension, continuation, renewal, amendment, or modification of any Federal grant or cooperative agreement;

(b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting an officer or employee of any agency, Member of Congress, or an employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete Standard Form - LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, contracts under grants and cooperative agreements, and subcontracts), and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by S1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Organization Name | NRA or AO Number and Title

Printed Name and Title of Authorized Representative

Signature | Date

Printed Principal Investigator Name | Proposal Title

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NASA Research Announcement (NRA)/Announcement of Opportunity (AO) Mailing List Update

If your current address is NOT up-to-date, please fill out this form completely.

This is the update form for the NASA Office of Space Sciences (OSS) NRA/AO mailing list. Please fill out CONTACT INFORMATION completely. Check only those that apply in Institution Type and Disciplins. Fold the form, secure with tape, and mail it back to the address on the reverse side. Proper postage must be applied.

Please check which announcements you would like to receive:

- ☐ 1. NASA Research Announcements (basic, non-flight, on-going research)
- ☐ 2. Announcements of Opportunity (specific space flight mission)

Must check one, please include code number from mailing label:

- ☐ 1. Please *add* my name to the mailing list.
- ☐ 2. Please *remove* my name from the mailing list (please attach mailing label)
- ☐ 3. Please *update* my current listing.

CONTACT INFORMATION If your address has changed or your mailing label is incorrect, please provide *COMPLETE* contact information.

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First Name: _____ MI: _____ Last Name: _____

Organization: _____

Division / Department: _____

Street: _____

City: _____ State: _____ Zip: _____

Telephone No: _____ Fax No: _____

E-Mail Address: _____ Internet Address: _____

Country: (foreign addresses, please specify) _____

Institution Type
(check only those that apply)

- ☐ 1. College or University
- ☐ 2. Minority College or University
- ☐ 3. Foreign Addressee
- ☐ 4. Minority Business
- ☐ 5. NASA HQs/Center
- ☐ 6. Nonprofit Corporation
- ☐ 7. Other Government Agency
- ☐ 8. Private Industry
- ☐ 9. Small Business

Societies:

- ☐ A. American Astronomical Society
- ☐ B. American Geophysical Union
- ☐ C. Others _____

Discipline:
(check only those that apply)

1. Astronomy and Astrophysics

- ☐ A. Theory and Modeling
- ☐ B. Instrumentation (Technology Dev)
- ☐ C. Laboratory Astrophysics
- ☐ D. Data Analysis (Archival)
- ☐ E. Observational Programs

2. Solar System Exploration

- ☐ A. Planetary Atmospheres and Astronomy
- ☐ B. Planetary Materials and Geochemistry
- ☐ C. Planetary Geology and Geophysics
- ☐ D. Instrument Development
- ☐ E. Origins of Solar Systems
- ☐ F. Exobiology

3. Space Physics

- ☐ A. Cosmic and Heliosphere Physics
- ☐ B. Solar Physics
- ☐ C. Magnetospheric Physics
- ☐ D. Iono-Thermo-Mesospheric Physics

4. Information Systems/Computer Science

- ☐ A. High Performance Computing and Networking
- ☐ B. Scientific Data Analysis and Visualization
- ☐ C. Science Data Storage and Management
- ☐ D. Software Technology

SPI
7/94

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